Coke Oven RTR: Pre-Early Guidance R4 RA Briefing

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What we'll cover today….

- Action Needed: Coke Oven RTR Early Guidance (EG) is scheduled for Monday 12/13/21 at 10:30am
- Background: CAA 112 and Part 63: "Risk and Technology Review" (RTR) Program for Hazardous Air Pollutant (HAP) sources (40 CFR 63)
- Overview of the current RTR proposed rulemaking for coke facilities
- Identified issues with this RTR proposal and recommended approach

Early Guidance meeting: 12/13/2021

- RA is invited along with R4 WG member, RA can delegate meeting to DRA or DD

Step 3: Getting Early Guidance from Senior Management and Preparing the Analytic Blueprint

In this step, the workgroup gets initial guidance from senior management and prepares an Analytic Blueprint.

What is Early Guidance?

For both Tier 1 and Tier 2 actions, the lead office should provide participating AAs/RAs with meaningful opportunities to contribute to Early Guidance decisions and should obtain agreement from participating offices on issues that affect them. The Early Guidance meeting facilitates this goal. (See Action Aid 5 and Action Aid 8 for additional information on the Early Guidance meeting.) The meeting involves staff members and senior managers from all participating offices and establishes policy priorities and communicates expectations to the workgroup. Senior managers should identify issues of significant concern, and the lead decision maker sets the priorities and general direction for continued development of the action.

Source: 2018 EPA Action Development Process Guidance Document

Background: Part 63 NESHAP

- **Requirements from 1990 Clean Air Act Amendments in Section 112**
  - CAA 112 --> 40 CFR Part 63: EPA to create rules for 189 HAPs based on "source category"
  - Major Sources: emit total HAPS ≥ 25 tons/yr OR any individual HAP ≥ 10 tons/yr
    - MACT: Maximum Achievable Control Technology is required
    - Coke Oven sources are all major sources
  - Area Sources: emit total HAPS < 25 tons/yr AND all individual HAP < 10 tons/yr
    - GACT: Generally Available Control Technology OR MACT is required

Emission Source Type	Standards Set	Standard Types
Major Stationary Sources	97 standards for 174 major source categories developed under section 112(c)(2).	Technology-based standards based on MACT
Area Stationary Sources	56 standards for 68 area source categories required to fulfill the requirements of sections 112(c)(3) and 112(k)(3)(B).	Technology-based standards (MACT or GACT)

Source: EPA Second Integrated Urban Air Toxics Report to Congress (2014)

Background: RTR for Part 63 NESHAP rules

- **Most Part 63 actions are now focused on the ongoing requirements of 112**
  - **RTR = [Residual] Risk and Technology Review**
- **Residual Risk Review - CAA Section 112(f)**
  - Required once, 8 years after promulgation of MACT standard (major source Part 63 rules only)
    - 40 CFR 63 Subpart L (Coke Oven Batteries) had unique extended timeline in CAA
  - Assess remaining health risks from each source category to determine whether the standards protect public health with an ample margin of safety, generally 1 in 10,000 cancer risk
  - EPA models risk for emissions from the source category as well as the whole facility
- **Technology Review - CAA Section 112(d)(6)**
  - Require every 8 years after a standard is promulgated (all Part 63 rules)
  - Review and revise standards to account for improvements in air pollution controls / prevention

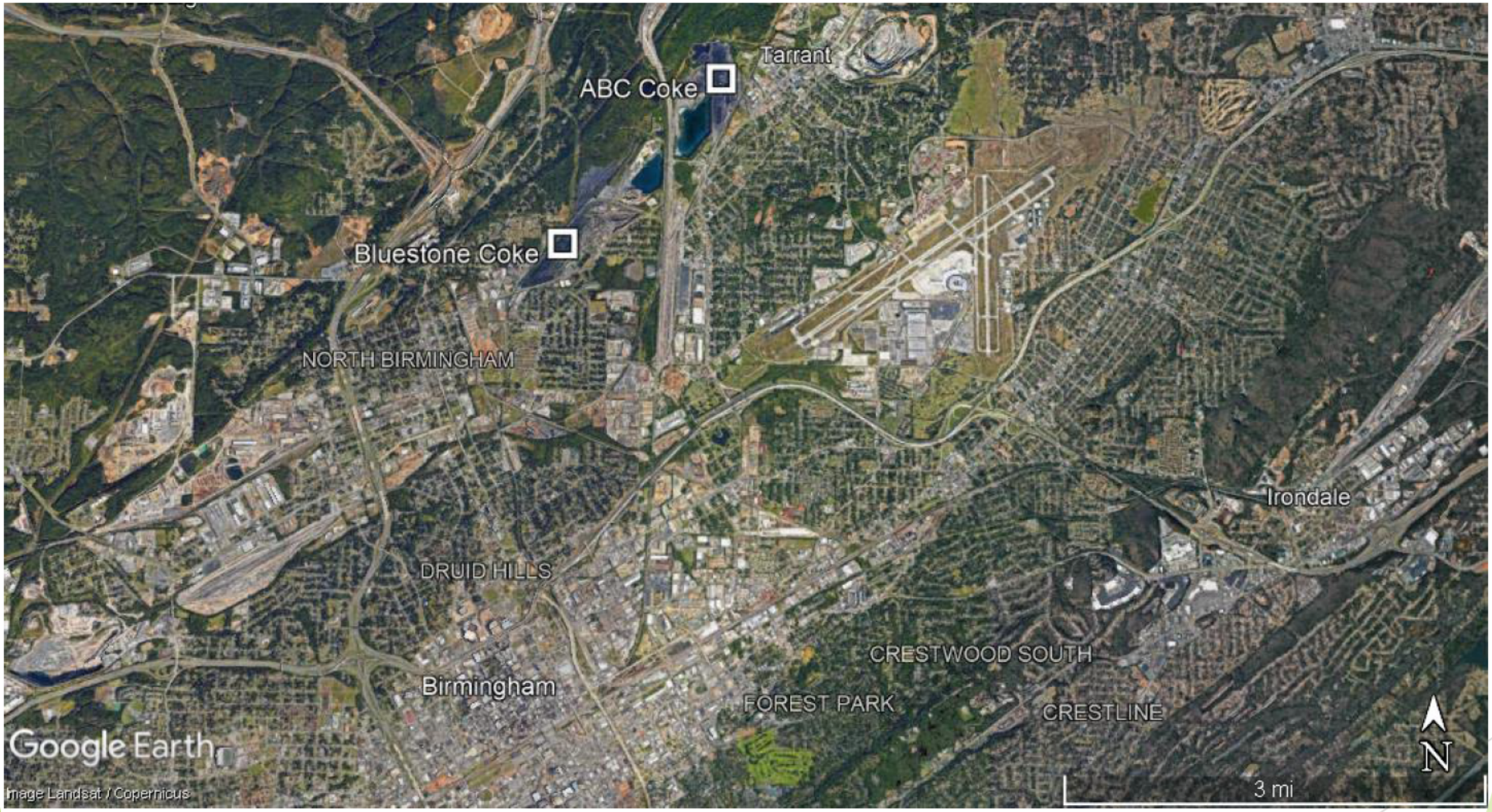
What is Coke?

- Coke is a “pure” carbon mass made from coal
- Used as a raw material in iron and steel production
- Coal is “coked” in a batch distillation process
- “Coking”: 2000+ degrees F for 12-20 hours in sealed ovens that limit oxygen supply to the process

RTR for Coke Ovens

- **Court ordered Final Rule required by 12/26/22**
  - Covers 2 standards for coke oven batteries: Subparts L and CCCCC (L/5C)
  - Jake Carpenter represents R4 on RTR rule workgroup
- **14 Coke Oven facilities in US**
  - 5 are "heat and nonrecovery" (HNR) - newer technology, negative pressure, less likely to emit HAPs
  - 9 are "by-product recovery" (BPR) - very old technology, positive pressure, more likely to emit HAPS
    - BPR facilities include coke by-product recovery plant (CBPP) as part of the process
    - Excess emissions may be common, ambient monitoring has found elevated HAPs
    - BPRs have been a focus of public health and EJ concerns in nearby communities
    - (b)(5) [redacted]

R4 Sources: Jefferson County, AL

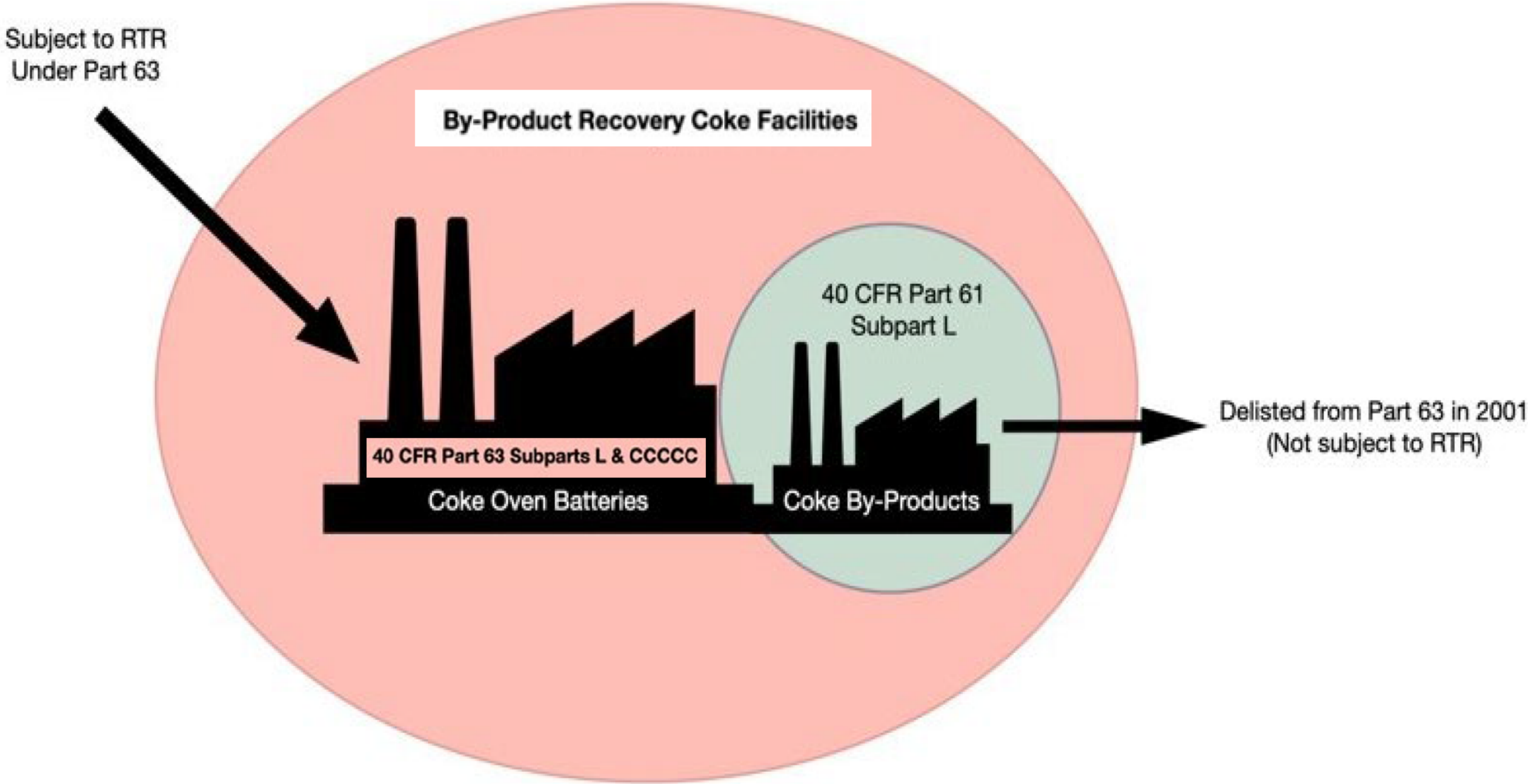


R4 Sources: Bluestone Coke

R4 Sources: ABC Coke

Regulatory Summary for Coke Facilities

Part 63 Source Category	Part 63 NESHAP Rule	112 (f) Risk Review	112 (d)(6) Technology Review
Coke Oven Batteries (charging, oven/door leaks, offtakes)	63 Subpart L (1993) "MACT track": 1 facility "LAER track": 8 facilities (including both R4 facilities)	"MACT track": completed in 2005 "LAER track": due in 2020, not completed (b)(5)	(b)(5)
Coke Ovens: Pushing, Quenching, and Battery Stacks	63 Subpart 5C (2003)	(b)(5)	(b)(5)
Coke By-Product Plants	Delisted from Part 63 in 2001. Still subject to Benzene NESHAP: Part 61 Subpart L (1989)	N/A	N/A


Subject to RTR
Under Part 63
By-Product Recovery Coke Facilities
40 CFR Part 61
Subpart L
40 CFR Part 63 Subparts L & CCCCC
Coke Oven Batteries
Coke By-Products
Delisted from Part 63 in 2001
(Not subject to RTR)


ABC Coke, Jefferson County, AL
Write a description for your map.
Coke Oven Battery
Coke Oven Battery
CBPP
Google Earth
Image Landsat / Copernicus
N
200 ft

Issue #1: Fenceline Monitoring for Benzene

- **Recommendation for EG Meeting:** Include (b)(5)
  - (b)(5)
- Pros
  - (b)(5)
    (b)(5)
  - (b)(5)
- Cons
  - (b)(5)
  - (b)(5)

(b)(5)

Issue #2: Re-listing of CBPP Source Category

- **Recommendation For EG Meeting:** (b)(5) [redacted]
- (b)(5) [redacted]
  - (b)(5) [redacted]
  - (b)(5) [redacted]
    - (b)(5) [redacted]

Fenceline monitoring for 5C/L sources in the current action can easily be extended to CBPP sources once they are relisted

Issue #3: Risk Assumption Change Concerns

- **Recommendation For EG Meeting:** (b)(5)

  (b)(5)

- (b)(5)

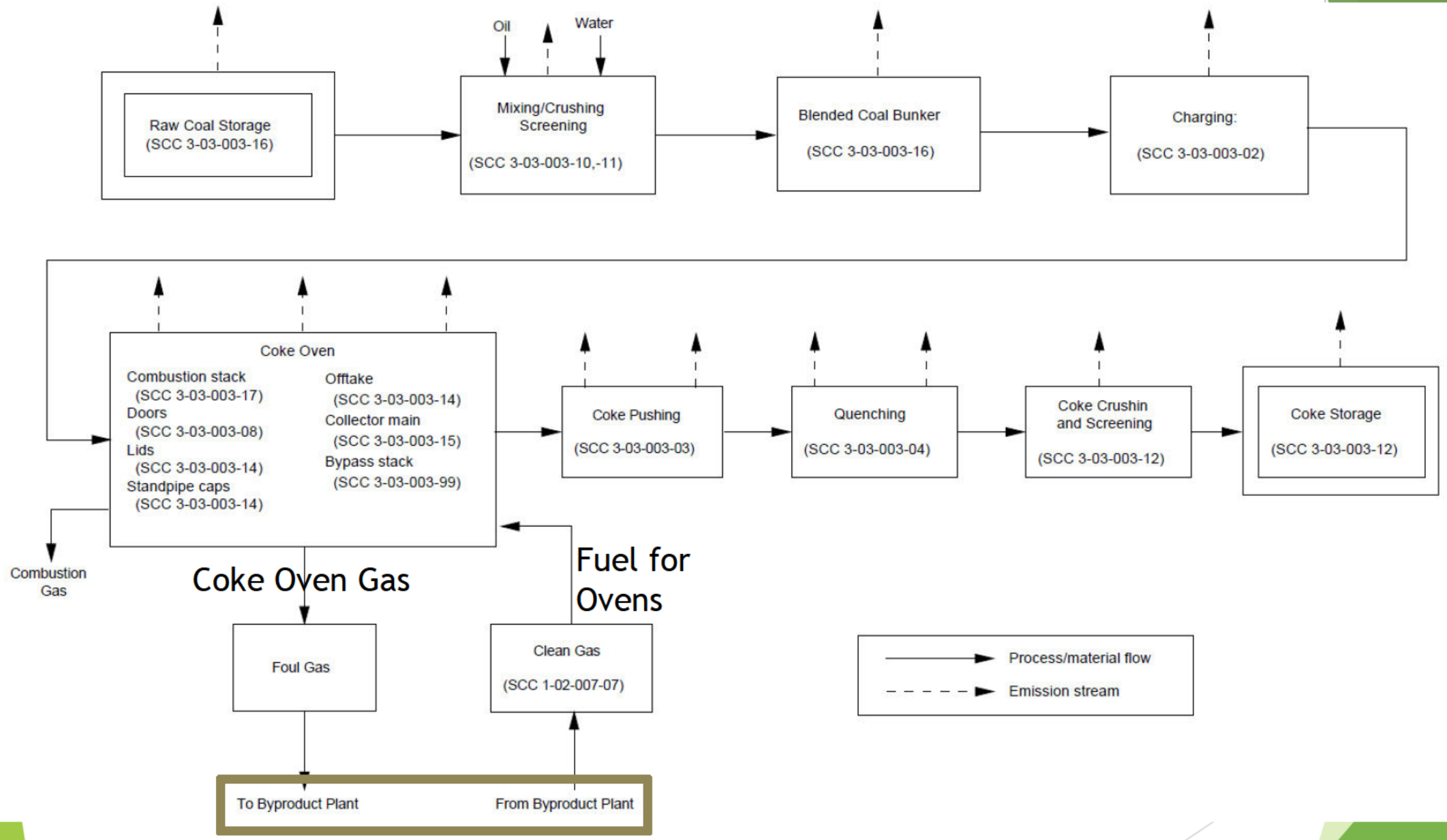
  (b)(5)

  - (b)(5)
  - (b)(5)
  - (b)(5)

Recommendations of WG Leads

- (b)(5)
- (b)(5)
  - (b)(5)
  - (b)(5)
- (b)(5)
  - (b)(5)
  - (b)(5)

Appendix
Coke Plant Flow Diagram


Raw Coal Storage
(SCC 3-03-003-16)
Oil
Water
Mixing/Crushing
Screening
(SCC 3-03-003-10,-11)
Blended Coal Bunker
(SCC 3-03-003-16)
Charging:
(SCC 3-03-003-02)
Coke Oven
Combustion stack
(SCC 3-03-003-17)
Doors
(SCC 3-03-003-08)
Lids
(SCC 3-03-003-14)
Standpipe caps
(SCC 3-03-003-14)
Offtake
(SCC 3-03-003-14)
Collector main
(SCC 3-03-003-15)
Bypass stack
(SCC 3-03-003-99)
Coke Pushing
(SCC 3-03-003-03)
Quenching
(SCC 3-03-003-04)
Coke Crushin
and Screening
(SCC 3-03-003-12)
Coke Storage
(SCC 3-03-003-12)
Combustion
Gas
Coke Oven Gas
Fuel for
Ovens
Foul Gas
Clean Gas
(SCC 1-02-007-07)
To Byproduct Plant
From Byproduct Plant
Process/material flow
Emission stream